

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P545718

Luminaire Tested: **FMR-12-2-LD4-2LO-50-UNV-93-97-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P545718  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-12-2-LD4-2LO-50-UNV-93-97-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

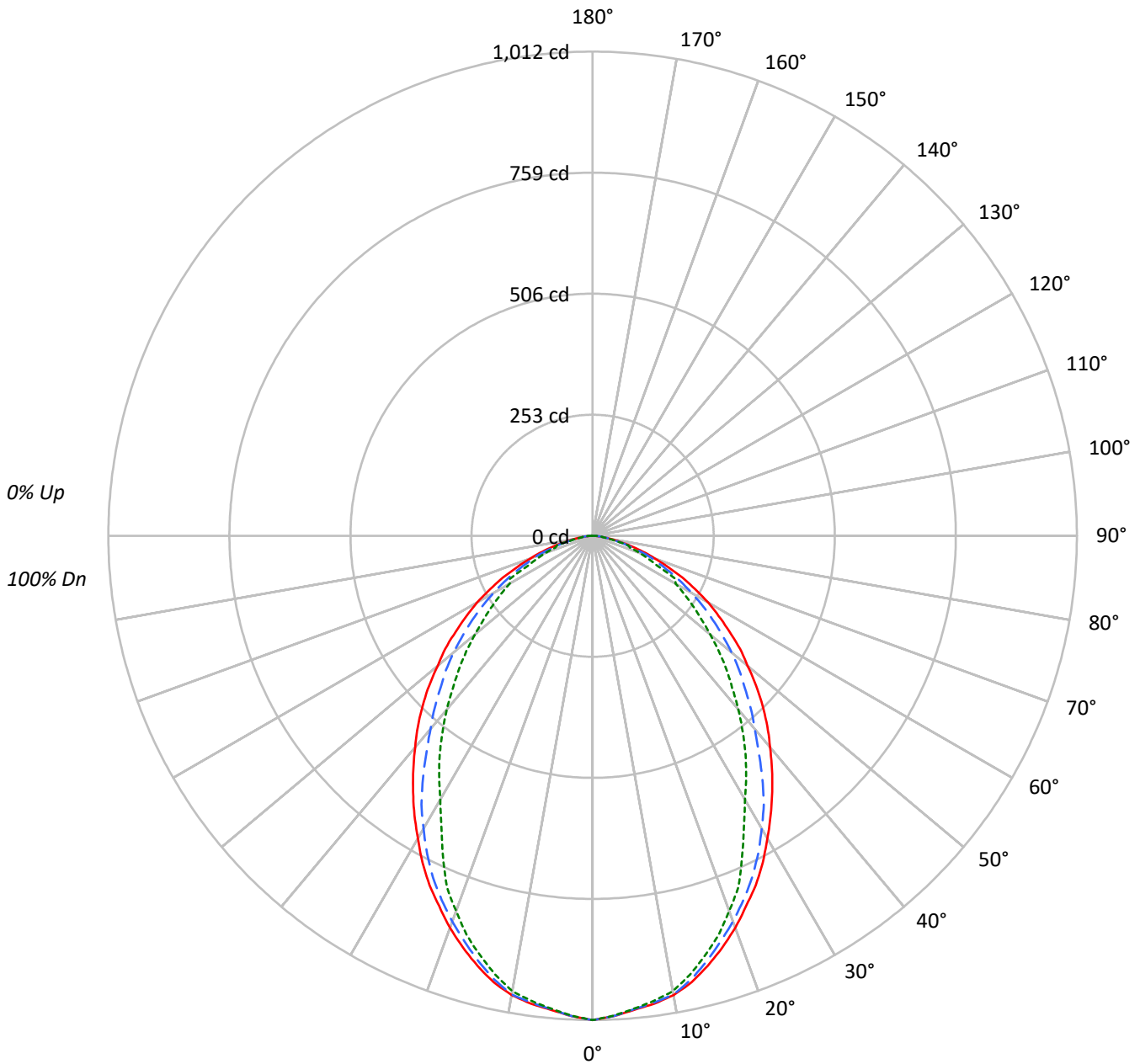
Lumens per Lamp: N/A  
Luminaire Lumens: 1987.0 lumens  
Efficiency: N/A  
Efficacy: 84.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5448	5448	5448
5°	5373	5367	5361
10°	5327	5320	5282
15°	5183	5131	5059
20°	4993	4912	4778
25°	4787	4684	4391
30°	4538	4392	3956
35°	4298	4059	3660
40°	4053	3700	3329
45°	3821	3420	3010
50°	3537	3174	2684
55°	3272	2877	2405
60°	2998	2569	2154
65°	2637	2250	1908
70°	2173	1970	1621
75°	1728	1508	1582
80°	1159	1088	1017
85°	722	865	1013



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	4.7
10°-20°	258.6	13.0
20°-30°	358.0	18.0
30°-40°	381.7	19.2
40°-50°	348.2	17.5
50°-60°	272.8	13.7
60°-70°	177.8	8.9
70°-80°	78.8	4.0
80°-90°	16.9	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	710.8	35.8
0°-40°	1092.5	55.0
0°-60°	1713.5	86.2
0°-90°	1987.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1987.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1012	1012	1012	1012	1012	
5°	995	993	993	992	992	94
15°	930	930	921	912	908	262
25°	806	802	789	761	740	370
35°	654	649	618	571	557	409
45°	502	491	449	412	396	387
55°	349	338	307	270	256	313
65°	207	195	177	180	150	204
75°	83	77	72	69	76	89
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1012.2	1012.2	1012.2	1012.2	1012.2
2.5°	1005.1	1005.1	1005.1	1004.0	1004.0
5°	994.6	993.4	993.4	992.3	992.3
7.5°	986.4	985.2	984.1	982.9	980.6
10°	974.7	974.7	973.5	967.7	966.5
12.5°	956.0	954.8	950.1	941.9	939.6
15°	930.2	930.2	920.9	911.5	908.0
17.5°	902.2	901.0	889.3	879.9	875.2
20°	871.7	869.4	857.7	842.5	834.3
22.5°	837.8	837.8	823.8	803.9	795.7
25°	806.2	801.5	788.7	760.6	739.5
27.5°	769.9	762.9	748.9	709.1	684.5
30°	730.2	726.6	706.8	655.3	636.5
32.5°	692.7	686.9	665.8	612.0	596.8
35°	654.1	649.4	617.8	571.0	557.0
37.5°	615.5	609.6	569.8	532.4	514.9
40°	576.9	569.8	526.6	492.6	473.9
42.5°	540.6	531.2	489.1	452.8	431.8
45°	502.0	491.4	449.3	411.9	395.5
47.5°	463.4	454.0	415.4	376.8	358.1
50°	422.4	414.2	379.1	340.5	320.6
52.5°	388.5	375.6	341.7	303.1	286.7
55°	348.7	338.2	306.6	270.3	256.3
57.5°	312.4	301.9	272.6	238.7	227.0
60°	278.5	263.3	238.7	209.5	200.1
62.5°	241.0	229.3	208.3	183.7	195.4
65°	207.1	195.4	176.7	180.2	149.8
67.5°	169.7	163.8	147.4	131.1	126.4
70°	138.1	131.1	125.2	107.7	103.0
72.5°	110.0	103.0	94.8	85.4	81.9
75°	83.1	77.2	72.5	69.0	76.1
77.5°	57.3	55.0	51.5	48.0	46.8
80°	37.4	36.3	35.1	33.9	32.8
82.5°	22.2	22.2	22.2	22.2	22.2
85°	11.7	12.9	14.0	15.2	16.4
87.5°	7.0	7.0	8.2	9.4	10.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)